

IN THE CLAIMS:

Claims 5, 9, 10, 12, and 20 have been amended herein. All of the pending claims 1 through 20 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Previously presented) A semiconductor device comprising:
a lead frame having a plurality of lead fingers thereon, at least one lead finger of said plurality of lead fingers having an attaching surface;
a semiconductor die having an active surface having at least one bond pad thereon configured for electrical connection to said at least one lead finger of said plurality of lead fingers of said lead frame; and
a nonconductive polymer adhesive selected from a group of adhesives that is tacky and compliant at room temperature, said nonconductive polymer adhesive applied to one of said attaching surface of said at least one lead finger of said plurality of lead fingers of said lead frame and a portion of said active surface of said semiconductor die for compression therebetween to electrically connect said at least one bond pad of said semiconductor die to said at least one lead finger of said plurality of lead fingers of said lead frame, said nonconductive polymer adhesive including a first material from a group of copolymers that includes isobutyl compounds and a second material that is from a group of metal oxides.
2. (Previously presented) The semiconductor device of claim 1 wherein a first portion of said nonconductive polymer adhesive is isobutyl acetal diphenol copolymer.

3. (Previously presented) The semiconductor device of claim 1 wherein said nonconductive polymer adhesive includes said first material from a group of copolymers that includes isobutyl acetal diphenol copolymer and said second material that is from said group of metal oxides that includes titanium dioxide.

4. (Previously presented) The semiconductor device of claim 3 wherein said nonconductive polymer adhesive has from about 75 percent to about 95 percent by weight of said isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent by weight, respectively, of said titanium dioxide.

5. (Currently amended) A semiconductor device comprising:
a lead frame having a plurality of lead fingers thereon, each lead finger of said plurality of lead fingers having an attaching surface;
a semiconductor die having an active surface having bond pads thereon configured for electrical connection to each said lead finger of said plurality of lead fingers of said lead frame; and
a nonconductive polymer adhesive selected from a group of adhesives that is tacky and compliant at room temperature and is applicable to a substrate through a stencil, said nonconductive polymer adhesive being applied to one of said attaching surfaces of said plurality of lead fingers of said lead frame and a portion of said active surface of said semiconductor die for compression therebetween to electrically connect said bond pads of said semiconductor-~~device~~ die to said plurality of lead fingers of said lead frame, said nonconductive polymer adhesive includes a first material from a group of copolymers that includes isobutyl compounds and a second material that is from a group of metal oxides.

6. (Previously presented) The semiconductor device of claim 5, wherein a first portion of said nonconductive polymer adhesive is isobutyl acetal diphenol copolymer.

7. (Previously presented) The semiconductor device of claim 5, wherein said nonconductive polymer adhesive includes said first material from said group of copolymers that includes isobutyl acetal diphenol copolymer and said second material that is from said group of metal oxides that includes titanium dioxide.

8. (Previously presented) The semiconductor device of claim 7, wherein said nonconductive polymer adhesive has from about 75 percent to about 95 percent by weight of said isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent by weight, respectively, of said titanium dioxide.

9. (Currently amended) A semiconductor device comprising:
a lead frame having a plurality of lead fingers having attaching surfaces thereon;
a semiconductor die having an active surface having at least one bond pad thereon for electrical connection to at least one lead finger of said plurality of lead fingers of said lead frame;
and
a nonconductive polymer adhesive which includes a first material from a group of copolymers that includes isobutyl acetal diphenol copolymer and a second material that is from a group of metal oxides that includes titanium dioxide, said nonconductive polymer adhesive being applied to one of said attaching surfaces of said plurality of lead fingers and a portion of said active surface of said semiconductor die for compression therebetween to connect said semiconductor ~~device~~ die to said at least one lead finger of said plurality of lead fingers of said lead frame.

10. (Currently amended) A semiconductor device comprising:
a lead frame having an attaching surface thereon;
a semiconductor die having at least one bond pad on an active surface thereof; and
an adhesive that includes from about 75 percent to about 95 percent of isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent, respectively, of titanium dioxide, said adhesive being applied to one of said attaching surface of said lead frame and said at least one bond pad of said semiconductor ~~device~~ die for compression therebetween to electrically connect said at least one bond pad of said semiconductor die to said attaching surface of said lead frame.

11. (Previously presented) A semiconductor device comprising:
a lead frame having a plurality of lead fingers thereon, each lead finger of said plurality of lead fingers having an attaching surface thereon;
a semiconductor die having an active surface having a plurality of bond pads thereon configured for electrical connection to said plurality of lead fingers of said lead frame; and
a nonconductive polymer adhesive which includes a first material from a group of copolymers that includes isobutyl acetal diphenol copolymer and a second material that is from a group of metal oxides that includes titanium dioxide, said nonconductive polymer adhesive being applied to one of said attaching surfaces of said lead fingers of said plurality of lead fingers and said active surface of said semiconductor die for compression therebetween to connect said active surface of said semiconductor die to said attaching surfaces of said plurality of lead fingers of said lead frame.

12. (Currently amended) A device comprising:
a lead frame having an attaching surface;
a semiconductor die having bond pads on an active surface thereof configured for electrical connection to said lead frame; and
an adhesive that includes from about 75 percent to about 95 percent of isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent, respectively, of titanium dioxide, said adhesive being applied to one of said attaching surface of said lead frame and said semiconductor die for compression therebetween to connect said active surface of said semiconductor ~~device~~ die to said attaching surface of said lead frame.

13. (Previously presented) A semiconductor device having a lead frame having a plurality of lead fingers thereon, at least one lead finger of said plurality of lead fingers having an attaching surface and having a semiconductor die having an active surface having at least one bond pad thereon for connection to said at least one lead finger of said plurality of lead fingers of said lead frame, the semiconductor device comprising:
a polymer adhesive that is tacky and compliant at room temperature, said polymer adhesive applied to one of said attaching surface of said at least one lead finger of said plurality of lead fingers of said lead frame and a portion of said active surface of said semiconductor die to electrically connect said at least one bond pad of said semiconductor die to said at least one lead finger of said plurality of lead fingers of said lead frame, said polymer adhesive including a first material from a group of copolymers including isobutyl compounds and a second material from a group including metal oxides.

14. (Previously presented) The semiconductor device of claim 13, wherein a first portion of said polymer adhesive is isobutyl acetal diphenol copolymer.

15. (Previously presented) The semiconductor device of claim 13, wherein said polymer adhesive includes said first material from a group of copolymers that includes isobutyl acetal diphenol copolymer and said second material that is from said group of metal oxides that includes titanium dioxide.

16. (Previously presented) The semiconductor device of claim 15, wherein said polymer adhesive has from about 75 percent to about 95 percent by weight of said isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent by weight, respectively, of said titanium dioxide.

17. (Previously presented) A semiconductor device having a lead frame having a plurality of lead fingers thereon, at least one lead finger of said plurality of lead fingers having an attaching surface and having a semiconductor die having an active surface having at least one bond pad thereon for connection to said at least one lead finger of said plurality of lead fingers of said lead frame, the semiconductor device comprising:

an adhesive that is tacky and compliant at room temperature, said adhesive applied to one of said attaching surface of said at least one lead finger of said plurality of lead fingers of said lead frame and a portion of said active surface of said semiconductor die to electrically connect said at least one bond pad of said semiconductor die to said at least one lead finger of said plurality of lead fingers of said lead frame, said adhesive including a first material from a group of copolymers including isobutyl compounds and a second material from a group including metal oxides.

18. (Previously presented) The semiconductor device of claim 17, wherein a first portion of said adhesive is isobutyl acetal diphenol copolymer.

19. (Previously presented) The semiconductor device of claim 17, wherein said adhesive includes said first material from a group of copolymers that includes isobutyl acetal diphenol copolymer and said second material that is from said group of metal oxides that includes titanium dioxide.

20. (Currently amended) The semiconductor device of claim 15, wherein said adhesive has from about 75 percent to about 95 percent by weight of said isobutyl acetal diphenol copolymer and from about 25 percent to about 5 percent by weight, respectively, of said titanium dioxide dioxide.